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TOWN OF TILLSONBURG 1966
COUNTY OF OXFORD

THE
ONTARIO WATER RESOURCES
COMMISSION
WATER POLLUTION SURVEY
of the
TOWN OF TILLSONBURG
COUNTY OF OXFORD

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Report on a water pollution
survey of the town of
Tillsonburg, county of Oxford.

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REPORT

ON A

WATER POLLUTION SURVEY

OF THE

TOWN OF TILLSONBURG

COUNTY OF OXFORD

JULY 28 and 29, 1966.

DIVISION OF SANITARY ENGINEERING

INTRODUCTION

A water pollution survey was conducted within the Town of Tillsonburg on July 28 and 29, 1966. The purpose of the survey was to record all significant sources of water pollution within the town. Surveys are performed routinely, and upon request by the Division of Sanitary Engineering of the Commission as a basis for evaluating all existing and potential sources of pollution. Where pollution conditions are found, corrective action is requested by the Commission.

Mr. E.J. Hornsby, Works Superintendent, provided information pertinent to the survey.

GENERAL

The Town of Tillsonburg had a 1965 assessed population of 6,682 (1966 Municipal Directory). The town is located in the south-westerly section of Oxford County at the junction of Highways #3 and #19.

Drainage waters from the area discharge into Big Otter Creek and two unnamed tributary streams of Lake Lisgar.

RECOMMENDATIONS OF PREVIOUS SURVEY AND ACTION TAKEN

A previous water pollution survey conducted on November 28, 1963, revealed that certain drains were contributing to the pollution of Big Otter Creek at Tillsonburg. It was recommended at this time that the wastes from the Borden Company Limited and the New Dundee Co-Operative Creamery Limited be included in the municipal sewer system as soon as possible. It was also suggested that

municipal officials investigate the possibility of eliminating private drain connections to the storm drains at Oxford Street (OL 31.62-W), and Brock Street West outlet, (OL 31.66-W).

In regard to these recommendations, at the time of this survey it was found that all the industries were discharging their wastes to the municipal water pollution control plant with the exception of the Borden Company Limited which was directing part of its wastes into the town sewer system and part into Big Otter Creek. A sample collected at the company outfall confirmed that plant wastes were being released without proper treatment into Big Otter Creek. Concerning the Oxford Street and Brock Street West outlet, the town has extended the sanitary sewer system to include the area serviced by these two drains, as well as some other unsewered sections of the town. Samples collected during the July 28, 1966 survey from the Oxford Street and Brock Street West outlets indicate that the effluents being discharged were of an acceptable quality.

Subsequent to the July 28, 1966 investigations, it was reported by the OWRC Division of Plant Operations that the Borden Company Limited was now discharging all wastes to the municipal water pollution control plant.

SEWERAGE WORKS

The industrial, commercial, and residential properties are serviced by the sanitary and storm sewer systems.

Sewage treatment is provided by an activated sludge type water pollution control plant with a capacity of 665,000 gallons per day. The plant effluent is discharged into Big Otter Creek.

The plant, in the near future is to be extended from the present 0.655 mgd capacity to provide a total capacity of 1.8 mgd.

REFUSE DISPOSAL SITE

The Town of Tillsonburg is presently utilizing two sanitary landfill sites for refuse disposal.

The first site, located in the centre of town is bounded by Hale Street, Raynes Street and the CNR tracks. It consists of about two acres of gully land and is approximately 30 feet below street level. There is a small stream flowing through the area which is protected by a water tight culvert. A sample collected from the effluent being discharged from the culvert (OL 31.64) was found to be of a satisfactory quality. It was found during a visit on November 7, 1966, that this site was no longer in operation.

The second site is located at the east end of Joseph Street in the north-east section of the town. The area comprises part of Lot 270 in the Town of Tillsonburg and also a part of Lot 2, Concession 11, in the Township of Dereham. It is confined to a natural watercourse which flows through part of the north-east portion of the town. Construction of diversion drains eliminate any seepage, which would occur from the area into Big Otter Creek. During an inspection on November 7, 1966, it was indicated that

use of this site would soon be discontinued and that a new refuse disposal site was being considered.

The new proposed refuse disposal site is located in the south part of Lot 18, Concession 12, in the Township of Dereham. The site consists of about two acres of sand pit area approximately 25 feet in depth. A stream is located about 500 feet away and approximately 30 feet lower than the sand pit. The site appears to be satisfactory. Pollution of either ground water or surface water would not be expected.

WATER QUALITY ANALYSES

Samples were collected, where possible, from the flows of all known surface water drains and storm sewers in order to assess the level of pollution being discharged from the Town of Tillsonburg into adjacent watercourses. These waters include Big Otter Creek and Lake Lisgar.

The laboratory results of the sanitary chemical analyses and bacteriological examinations are shown in Table I.

The location of sampling points are designated on the accompanying map.

INTERPRETATION OF LABORATORY ANALYSES

For convenience in the interpretation of laboratory analyses, the Ontario Water Resources Commission water quality objectives for surface-water drains, watercourses and bodies of water are listed on the following page.

Surface-Water Drains and Storm Sewers

5-Day BOD (Biochemical Oxygen Demand)

- not greater than 15 parts per million (ppm)

Suspended Solids Content

- not greater than 15 parts per million (ppm)

Coliforms - Membrane Filter (M.F.)

- not greater than 2400 per 100 Millilitres (ML)

Anionic Detergents (ABS)

- the presence of anionic detergent usually indicates pollution from domestic sources

WATERCOURSES

5-Day BOD (Biochemical Oxygen Demand)

- not greater than 4 parts per million (ppm)

Coliform Count

- not greater than 2,400 per 100 millilitres (ML)

SURFACE WATER QUALITY

1. Big Otter Creek Drainage Area

The laboratory results indicate that, at the time of the survey, the level of pollution in the Big Otter Creek was relatively low. This pollution can probably be attributed to the fact that some plant wastes were still being discharged from the Borden Company outfall (O 30.90-I) at the time of sampling.

Attention is also drawn to the discharge of a drain at Van and Bloomer Streets, (Broadway south drain). Although the flow was very low, a sample collected indicated the presence of untreated domestic sewage (O 31.10-W).

2. Unnamed Creek from Lake Lisgar

Laboratory results indicate that the effluent discharged from these outfalls into the creek was of satisfactory quality. There were no indications of pollution in this area.

SUMMARY

A water pollution survey of surface-water drains, storm sewers, and watercourses in the Town of Tillsonburg was performed on July 28 and 29, 1966.

Recommendation of the previous survey (1963) regarding connection of the Borden Company Limited and the New Dundee Co-Operative Creamery Limited to the municipal sewer system have been carried out. Also outlets from Oxford Street and Brock Street which were discharging untreated domestic sewage into the creek have been eliminated. However, an outfall at Van and Bloomer Streets (Broadway south drain) indicated the presence of polluting materials in the effluent being discharged. It is suggested that the outlet (O 31.10-W) should be investigated further by municipal officials to determine and eliminate the source of polluting wastes.

In conclusion, the Town of Tillsonburg should be commended for its co-operation in providing pollution abatement measures.

RECOMMENDATION

Municipal officials should investigate further the Broadway south drain, located at Van and Bloomer streets, and

undertake measures to eliminate the polluting wastes from this drain.

Approved by:

J. M. Timko For
J.M. Timko, P.Eng.,
District Engineer,
Division of Sanitary Engineering.

Prepared by:

D. Marchese.

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TABLE I

TOWN OF TILLSONBURG - WATER POLLUTION SURVEY

SEWER OUTFALLS AND SURFACE WATER DRAINS

<u>Sample Number</u>	<u>Location of Sampling Points</u>	<u>Date Sampled</u>	<u>5-Day BOD (ppm)</u>	<u>Total (ppm)</u>	<u>SOLIDS Susp. (ppm)</u>	<u>Diss. (ppm)</u>	<u>Anionic Detergents as ABS</u>	<u>Coliform Count per 100 ml</u>
<u>OUTFALLS DISCHARGING INTO BIG OTTER CREEK</u>								
O 30.90-I	Borden Company Ltd. Outfall.	Nov.28/63.	51	460	74	386	tr	59,000
		July 28/66.	200	440	58	382	0.2	320,000,000
OY 31.00	Stoney Creek above Jct.of Big Otter Cr.	Nov.28/63.	2.2	342	5	337	tr	4,600
		July 28/66.	1.2	390	24	366	tr	1,000
O 31.01-W	WPCP	Nov.28/63.	23	626	18	608	5.6	114,000
		July 28/66.	5.8	562	6	556	2.3	110,000
O 31.03-W	End of Bidwell Street.	Nov.28/63.	5.8	690	8	682	0.9	39,000
		July 3/64.	2.7	340	9	331		
		July 28/66.	2.4	802	3	799	0.4	570
O 31.10-W	Outfall at Van & Bloomer Broadway St.south drain.	July 28/66.	124	562	82	480	0.8	3,200,000
O 31.15-D	Watercourse N-W of the Van St. Foot Bridge.	Nov.28/63.	11	582	2	580	tr	74,000
		July 28/66.	3.8	684	3	681	0.1	10,000
OL 31.61	Watercourse from Lake Lisgar above Jct.of Big Otter Creek.	Nov.28/63.	5.4	476	2	476	tr	14,000
		July 28/66.	4.2	478	5	473	tr	15,000

TABLE I (Continued)

TOWN OF TILLSONBURG - WATER POLLUTION SURVEY

SEWER OUTFALLS AND SURFACE WATER DRAINS

<u>Sample Number</u>	<u>Location of Sampling Points</u>	<u>Date Sampled</u>	<u>5-Day BOD (ppm)</u>	<u>SOLIDS Total (ppm)</u>	<u>Susp. (ppm)</u>	<u>Diss. (ppm)</u>	<u>Anionic Detergents as ABS</u>	<u>Coliform Count per 100 ml</u>
O 31.63-W	Hyman and Maple Sts.	NO FLOW NOTED						
O 31.66-W	Watercourse from Pine St.	July 28/66.	1.4	534	100	434	tr	5,900
O 32.00-I	Keewadin Dairy & New Dundee Co-Operative Creamery Ltd. Drain.	Nov. 28/63.	960	1688	568	1120	0.7	34,000,000
		July 3/64.	1300	1956	544	1412		510,000
		July 28/66.	0.7	436	2	434		11,000
OY 31.30-W	Baldwin Street drain.	Nov. 28/63.	4.6	342	24	318	0.1	97,000
		July 28/66.	3.4	680	49	631	0.9	580,000
OY 31.35-W	Brock Street Outfall.	July 28/66.	0.3	456	35	420	tr	240
OY 31.50-W	Washington St. Outfall.	NO FLOW NOTED						
OY 31.60-W	Hale St. Outfall	NO FLOW NOTED						
OY 31.75-W	Concession Street N-E of Bridge.	July 28/66.	2.2	370	34	636	tr	9,000
OY 31.76-W	Outfall N-E of Ann St.	July 28/66.	0.8	514	12	502	0.1	41,000
OY 31.77-W	Niagara Street Outfall.	July 28/66.	10	372	41	331	0.7	600,000

TOWN OF TILLSONBURG - WATER POLLUTION SURVEY

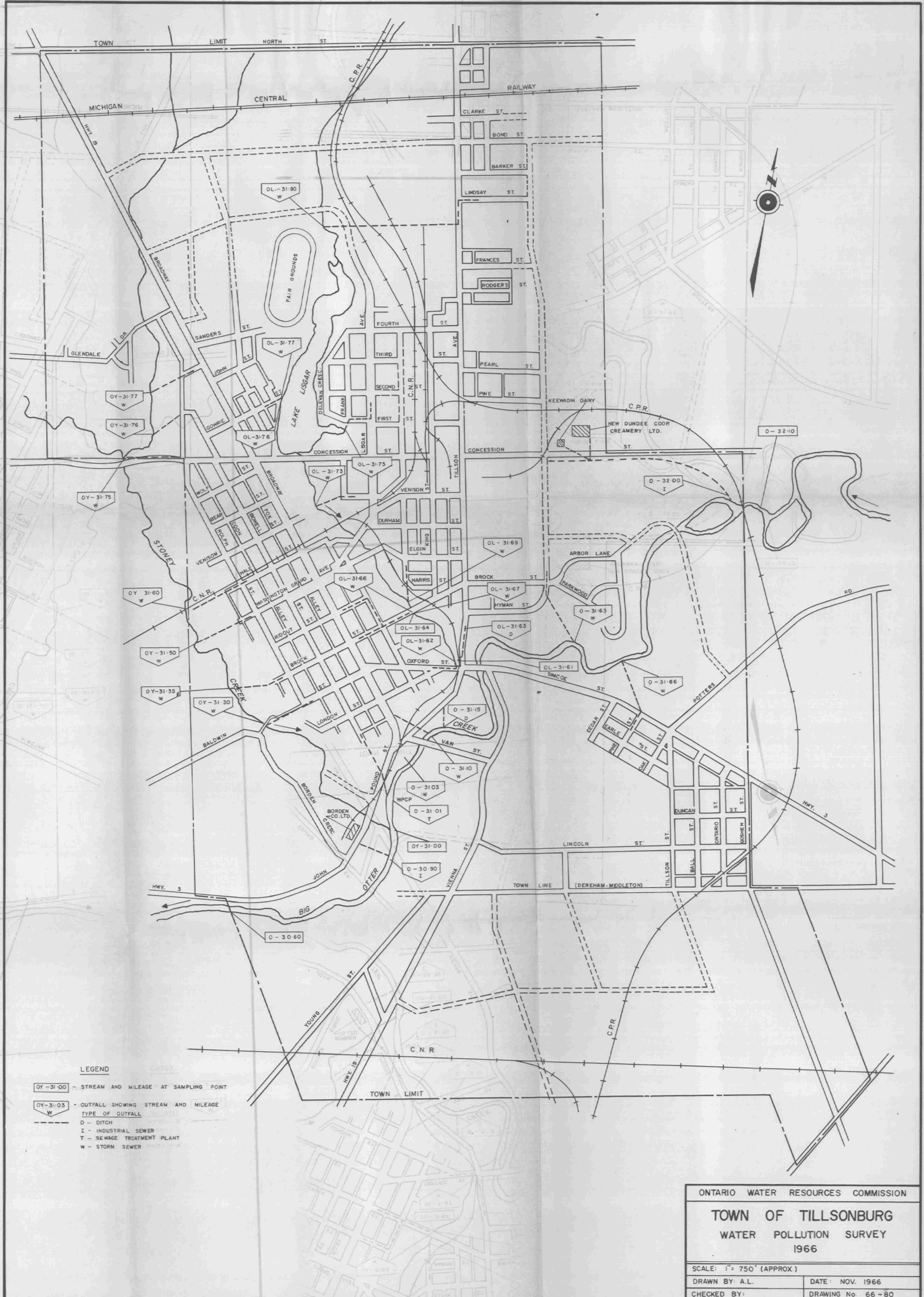
Sample Number	Location of Sampling Points	Date Sampled	5-Day BOD (ppm)	Total (ppm)	SOLIDS Susp. (ppm)	Diss. (ppm)	Anionic Detergents as ABS	Coliform Count per 100 ml
	OUTFALLS INTO AN UNNAMED CREEK FROM LAKE LISGAR							
OL 31.62-W	Oxford Street Outfall.	Nov.28/63.	118	830	42	788	17	19,000,000
		July 28/66.	5.6	502	15	487	0.7	155,000
OL 31.63-D	Tillson Avenue Drain.	NO FLOW NOTED						
OL 31.64	Brock Street Below Refuse Disposal Site.	Nov.28/63.	8.8	480	11	469	0.4	14,000
		July 28/66.	3.6	598	13	585	tr	15,000
OL 31.66-W	Brock St. W. Outlet.	Nov.28/63.	102	610	50	560	17.4	21,000,000
		July 28/66.	0.8	584	4	580		8,000
OL 31.67-W	Brock St. E. Outlet.	July 28/66.	1.0	630	1	629	tr	76,000
OL 31.69-W	Harris St. Outlet.	NO FLOW NOTED						
OL 31.73-W	Venison St. Outlet.	NO FLOW NOTED						
OL 31.75-W	Delevan Crescent.	NO FLOW NOTED						
OL 31.76-W	Gowrie St. S. Outlet.	NO FLOW NOTED						

TABLE I (Continued)

TOWN OF TILLSONBURG - WATER POLLUTION SURVEY

SEWER OUTFALLS AND SURFACE WATER DRAINS

<u>Sample Number</u>	<u>Location of Sampling Points</u>	<u>Date Sampled</u>	<u>5-Day BOD (ppm)</u>	<u>Total</u>	<u>SOLIDS Susp. (ppm)</u>	<u>Diss. (ppm)</u>	<u>Anionic Detergents as ABS</u>	<u>Coliform Count per 100 ml</u>
OL 31.77-W	Gowrie St. N. Outlet.	NO FLOW NOTED						
OL 31.80-W	Lindsay St. Drain	July 28/66.	3.4	380	14	366	0.1	73,000
O 30.60	Big Otter Creek Below Tillsonburg.	Nov. 28/63.	5.8	378	35	343	0.2	55,000
		July 28/66.	BROKEN IN TRANSIT					
O 32.1	Big Otter Creek Above Tillsonburg	Nov. 28/63.	1.8	314	2	312	tr	70
		July 3/64.	1.3	412	33	379		
		July 28/66.	2.6	444	24	420	tr	220



LEGEND

- OY-31-00 - STREAM AND MILEAGE AT SAMPLING POINT
- OY-31-03 - OUTFALL SHOWING STREAM AND MILEAGE
- W - TYPE OF OUTFALL
- D - DITCH
- I - INDUSTRIAL SEWER
- T - SEWAGE TREATMENT PLANT
- W - STORM SEWER

ONTARIO WATER RESOURCES COMMISSION

TOWN OF TILLSONBURG
WATER POLLUTION SURVEY
1966

SCALE: 1" = 750' (APPROX.)

DRAWN BY: A.L.

DATE: NOV. 1966

CHECKED BY:

DRAWING No. 66-80